

**U.S. National Work Group
for the
Development of Commercial Hydrogen Measurement Standards**

July 7, 2009

**Joint Device Standards Subcommittee (DSS) and Fuel Specifications Subcommittee (FSS)
Teleconference/Webconference Meeting**

AGENDA

Time: Tuesday, July 7, 2009/3:00 p.m. - 5:00 p.m. EDT-USA & Canada (GMT - 4:00)

Meeting Number: 641 659 270

Password: hydrogen

This meeting is sponsored by the U.S. Department of Energy and U.S. Department of Commerce's National Institute of Standards and Technology.

This meeting is hosted by CSA America, Inc.

Purpose: The U.S. National Work Group (USNWG) is meeting to continue its work to promote the establishment of a comprehensive set of (1) design, accuracy, installation, use, and method of sale requirements, (2) test procedures, and (3) quality standards for hydrogen fuel and equipment used in hydrogen measurements for vehicle and other refueling applications.

ATTACHMENTS:

- Appendix A** Draft Summary of the June 2009 USNWG Meeting
- Appendix B** Draft 4.1 (R/W) Recommendations for Retail and Wholesale Application Requirements
- Appendix C** Analysis of Paragraphs That Do Not Apply to Wholesale/Bulk Deliveries
- Appendix D** Current NIST Handbook 44 Retail/Wholesale Code Requirements

AGENDA TOPICS

3:00 P.M. (EDT)

(1) Welcome Current/New Members and Roll Call

New members of the USNWG and visitors will be welcomed, the meeting is called to order, time for a roll call, and the meeting's purpose reviewed. The collaborative work by the meeting's sponsors will be recognized. New participants will be invited to provide their name, affiliation, and state their specific area of interest in the work to develop hydrogen measurement standards.

(2) Administrative Business

The USNWG will discuss and decide on procedures for managing and documenting its technical work. The following item(s) will be addressed:

(a) Approve the Summary of the June 2009 USNWG Meeting (see Appendix A)

A draft summary of the June 17, 2009 USNWG teleconference/webconference meeting was emailed on June 26, 2009 to the group for its review. The USNWG will decide if it is ready for a vote to approve the summary or if it requires until July 20, 2009 to complete its review.

(3) Development of Device Standards and Test Procedures for Commercial Hydrogen Measurement

On June 17, the USNWG agreed an additional two-hour teleconference/webconference was necessary before the upcoming August 11-13, 2009 in-person meeting to fully develop separate requirements for retail and wholesale applications. The USNWG will continue with its review of Draft 4.1 of the Hydrogen Gas-Measuring Devices Code to ensure that there are no gaps in the final code that might delay its acceptance in the weights and measures standards development process in fall 2009.

During the June 17th teleconference/webconference meeting discussions the USNWG focused on the intent of current NIST Handbook 44 measuring device codes to apply to all commercial devices whether they are classified for use in retail or wholesale applications. Measuring equipment is considered a commercial device when its measurements or computations from these devices are the basis for a charge or payment. Commercial equipment falls under the jurisdiction of the weights and measures authority. The intent for this draft code is the same as other measuring device codes in that it should apply to both retail and wholesale meters even in instances where there is a contractual agreement between the buyer and seller.

The USNWG will continue in its review of newly proposed requirements to Draft 4.1 of the Code (see Appendix B) intended to address both retail and wholesale applications. The analysis of draft code paragraphs prepared by Bob Boyd (Linde, Inc.) and Joe Cohen (APCI) that do not apply to wholesale applications now includes a new column outlining some strategies for addressing this issue (see Appendix C). These draft requirements were developed using the same approach other measuring device code sections have for both applications (see Appendix D). The California Division of Measurement Standards has provided recommendations to address the value of smallest unit in paragraphs S.1.4.(a) and (b) based on the ranges of flow rates found on approved mass flow meters for use in compressed gases and CNG retail motor-fuel dispenser applications. DMS based the 10 to 1 ratio for the display resolution on the existing ratio in Liquid Measuring Devices Code 3.30 paragraph S.1.2.3. as follows:

S.1.4. Value of Smallest Unit. The value of the smallest unit of indicated delivery, and recorded delivery if the device is equipped to record, shall not exceed the equivalent of:

(a) 0.001 kg on devices with a maximum rated flow rate of [30 kg/min or less](#)

(b) [0.01 kg](#) on devices with a maximum rated flow of [more than 30 kg/min](#)

The USNWG will be asked to review these documents to determine if they represent viable options for addressing both retail and wholesale applications.

(4) Next Steps/Tasks

The USNWG will discuss upcoming events and the next steps in the weights and measures standards development process that may affect its work to fully develop hydrogen measurement standards and test procedures. Projects, strategies, and target dates will also be identified to ensure that the USNWG meets its goals.

(5) Next Meeting(s)

(a) Upcoming August 2009 Meeting Status

In April 2009, the USNWG Subcommittees rescheduled the August 2009 meeting. The new date and location for that upcoming in-person meeting is:

Date(s)	Location
August 11-13, 2009 August 11 th 1:00 p.m. – 5:00 p.m. EDT FSS Meeting; August 12 th & 13 th 8:30 a.m. – 5:00 p.m. EDT DSS Meeting	NIST 100 Bureau Drive Bldg. 222/Room B263 Gaithersburg, MD 20899

5:00 P.M. (EDT) Meeting Adjourns